CONTENTS

NUMBER 1

	1	The T. P. Hoar Prize for 1988
	5	The U. R. Evans Award for 1989
GABRIELE ROCCHINI	9	The generalization of the three-point method and its application to the corrosion-rate measurement
D. GORSE, B. RONDOT and M. DA CUNHA BELO	23	Irradiation effects on passive films formed on a 304 type stainless steel
REETA AGRAWAL and T. K. G. NAMBOODHIRI	37	The inhibition of sulphuric acid corrosion of 410 stainless steel by thioureas
JIA CHEN and JIANN KUO WU	53	The improved passivation of iron induced by additions of tungsten
P. PELED and D. ITZHAK	59	The corrosion behavior of double pressed, double sintered stainless steel containing noble alloying elements
D. J. HOLTZHAUSEN and J. P. ROUX	67	The influence of Pd on the surface segregation of Cr and impurities in high chromium stainless steel
B. LLOYD and M. I. MANNING	77	The episodic nature of the atmospheric rusting of steel
OSAMI SERI and KOHSUKE TAGASHIRA	87	The interpretation of polarization curves for Al–Fe alloys in de-aerated NaCl solution
U. LOTZ and J. POSTLETHWAITE	95	Erosion–corrosion in disturbed two phase liquid/particle flow
JOSÉ M. SANIGER and LEONEL COTA	107	An auger electron spectroscopy study of the fluorination of Al–7075 alloy
	113	Corrosion Diary

NUMBER 2/3

J. C. SCULLY	115	Editorial
H. H. LE and E. GHALI	117	The electrochemical behaviour of pressure vessel steel in hot Bayer solutions as related to the SCC phenomenon
T. M. DEVINE	135	The mechanism of sensitization of austenitic stainless steel
A. KARLSSON, P. J. MØLLER and V. JOHANSEN	153	Iron and steel corrosion in a system of O_2, SO_2 and alkali chloride. The formation of low melting point salt mixtures
M. E. ROSELLI, M. A. SÁNCHEZ, E. M. MACCHI and J. J. PODESTÁ	159	A study of organic films formed in the Fe/H_2SO_4 + propargyl alcohol system by UV and IR spectroscopy and electron and X-ray diffraction
J. M. BASTIDAS, J. J. DAMBORENEA, J. A. GONZALEZ, E. OTERO, M. E. CHACON, W. I. ARCHER, J. D. SCANTLEBURY and K. ALSTON	171	An electrochemical study on the influence of oxygen in tinplate corrosion and inhibition
M. MOLIERE, Y. VERDIER and C. LEYMONIE	183	Oxidation of copper in high purity water at 70°C: application to electric generator operation
A. GUENBOUR, N. BUI, J. FAUCHEU, Y. SEGUI, A. B. BACHIR and F. DABOSI	189	The electrical properties of passive films formed on stainless steels in phosphoric acids
A. N. NIGAM, R. P. TRIPATHI, M. L. JANGID, K. DHOOT and M. P. CHACHARKAR	201	The influence of ascorbic acid on the corrosion of mild steel
E. MCCAFFERTY, P. M. NATISHAN and G. K. HUBLER	209	The anodic behavior of ion beam mixed surface alloys
D. R. JOHNS and F. R. BECKITT	223	Factors influencing the thermal stabilisation of alloy 600 tubing against intergranular corrosion

F. Berthier, J.-P. Diard, A. Jussiaume and J.-J. Rameau	239	The instantaneous impedance of non-stationary electrochemical systems: application to a corroding zinc electrode
G. S. Duffó and J. R. Galvele	249	Experimental confirmation of the surface mobility–stress corrosion cracking mechanism: Ag–15Pd, Ag–15Au and Ag–30Cd alloys in halide and sulphate containing solutions
M. J. Pryor and L. Lin	267	The mechanism of stress corrosion cracking of Cu-base alloys
A. Turnbull and G. F. Miller	293	A theoretical evaluation of the effect of a partial surface coating on hydrogen atom distribution in cathodic charging of steel
M. Miyasaka, K. Hashimoto, K. Kishimoto and S. Aoki	299	A boundary element analysis on galvanic corrosion problems—computational accuracy on galvanic fields with screen plates
S. K. Sharma, P. Mukhopadhyay, P. K. Chauhan and S. K. Kulkarni	313	Studies on the corrosion of two multicomponent iron base metallic glasses in potassium sulphate solution
	325	Corrosion Diary

NUMBER 4/5

V. Buscaglia, P. Nanni and C. Bottino	327	The mechanism of sodium sulphate-induced low temperature hot corrosion of pure iron
I. Sekine, C. Okano and M. Yuasa	351	The corrosion behaviour of ferritic stainless steel in oxalic acid solutions
D. B. Hibbert, S. Richards and V. Gonzalves	367	The kinetics and mechanism of the corrosion of copper in acidified copper (II) bromide solution
M. Ürgen, U. Stolz and R. Kirchheim	377	ESCA measurements of films on molybdenum formed in the passive and transpassive region
A. Macias and C. Andrade	393	The behaviour of galvanized steel in chloride-containing alkaline solutions—I. The influence of the cation
J. E. Castle and R. Ke	409	Studies by Auger spectroscopy of pit initiation at the site of inclusions in stainless steel
J. E. Castle and J. H. Qiu	429	Ion selectivity in the passivation of a Ni bearing steel
M. Azzi and J. J. Rameau	439	Corrosion in molten Na_2CO_3–K_2CO_3 at 800°C—II. The influence of water vapor on iron corrosion
P. Papaiacovou, R. J. Hussey, D. F. Mitchell and M. J. Graham	451	The effect of CeO_2 coatings on the oxidation behaviour of Fe–20Cr alloys in O_2 at 1173 K
E. M. M. Sutter and G. J. Goetz-Grandmont	461	The behaviour of titanium in nitric–hydrofluoric acid solutions
Jin-Syung Chen, V. Radmilovic and T. M. Devine	477	A comparison of the chromium concentration on grain boundaries in sensitized stainless steel measured by analytical electron microscopy and an electrochemical technique
R. G. Kelly and P. J. Moran	495	The passivity of metals in organic solutions
L. Tomlinson, C. B. Ashmore, P. J. B. Silver and A. P. Mead	511	The high temperature aqueous corrosion of ferritic steels: effect of heat flux on corrosion and magnetite deposition
	537	Announcements
	541	Corrosion Diary

NUMBER 6/7

G. A. Cash, D. P. Schweinsberg and G. A. Hope	543	The corrosion rate of low carbon steel in stationary and stirred sugar juice: a mathematical analysis of polarization curves
J. Congleton, W. Zheng and H. Hua	555	The stress corrosion cracking behaviour of annealed 316 stainless steel in low oxygen 5 ppm chloride content water at 300°C
R. D. Armstrong, T. M. Handyside and B. W. Johnson	569	Factors determining ionic currents in PVC protective coatings
D. M. Dražić and V. B. Mišković-Stanković	575	The determination of the corrosive behavior of polymer-coated steel with A.C. impedance measurements
A. W. J. Muller, F. J. M. J. Maessen and C. L. Davidson	583	The corrosion rates of five dental Ni–Cr–Mo alloys determined by chemical analysis of the medium using ICP–AES, and by the potentiostatic de-aeration method
H. Ohno, H. Nishihara and K. Aramaki	603	The protection of iron against corrosion with polymer films prepared by cathodic polymerization of halogenated xylenes
G. W. Walter	617	A comparison of single frequency and wide frequency range impedance tests for painted metals
H. Masuda and S. Matsuoka	631	The mechanism of corrosion fatigue crack propagation in structural steels under variable loading
W. M. Carroll and M. B. Howley	643	The influence of temperature, applied potential, buffer and inhibitor addition on the passivation behaviour of a commercial grade 316L steel in aqueous halide solutions
A. Turnbull and A. T. May	657	The effect of temperature and H_2S content on the cracking resistance of a 13% chromium martensitic stainless steel in acidified NaCl
A. Turnbull and M. W. Carroll	667	The effect of temperature and H_2S concentration on hydrogen diffusion and trapping in a 13% chromium martensitic stainless steel in acidified NaCl
M. Stratmann and H. Streckel	681	On the atmospheric corrosion of metals which are covered with thin electrolyte layers—I. Verification of the experimental technique
M. Stratmann and H. Streckel	697	On the atmospheric corrosion of metals which are covered with thin electrolyte layers—II. Experimental results
M. Stratmann, H. Streckel, K. T. Kim and S. Crockett	715	On the atmospheric corrosion of metals which are covered with thin electrolyte layers—III. The measurement of polarisation curves on metal surfaces which are covered by thin electrolyte layers
Short Communications		
M. Janik-Czachor and J. Banas	735	On phenomenological description of the anodic behavior of homogeneous alloys
H. Gladen, H. Kaiser and H. Kaesche	737	A morphological study of dezincification of ε-brass
B. Poulson	743	Mass transfer from rough surfaces
G. M. Rao	747	Corrosion of gold in biological fluid—urine
	753	Erratum
	757	Announcement
	759	Corrosion Diary

NUMBER 8/9

B. Vyas and I. L. H. Hansson	761	The cavitation erosion–corrosion of stainless steel
J. E. Castle, R. Ke and J. F. Watts	771	Additional in-depth information obtainable from the energy loss features of photoelectron peaks: the oxidation and reduction of an Fe/Cr alloy in oxygen at low partial pressures and ultra high vacuum
A. N. Nigam, R. P. Tripathi and K. Dhoot	799	The effect of phosphoric acid on rust studied by Mössbauer spectroscopy
G. Rondelli, B. Vicentini and A. Cigada	805	The corrosion behaviour of nickel titanium shape memory alloys
F. H. Stott, J. E. Breakell and R. C. Newman	813	The corrosive wear of cast iron under potentiostatically-controlled conditions in sulphuric acid solutions
J.-C. Chang and H.-H. Wei	831	Electrochemical and Mössbauer studies of the corrosion behavior of electrodeposited Fe–Zn alloys on steel
V. C. Noninski	839	Corrosion studies with the self-cleaning rotating electrode (SRE)
R. E. Hummel and R. J. Smith	849	The passivation of nickel in aqueous solutions—IV. Optical and electrochemical investigations of the anodic behavior of nickel in chloride-containing solutions
M. Elboujdaini, E. Ghali, R. G. Barradas and M. Girgis	855	An electrochemical investigation of the behaviour of aluminum alloys in different electrolytes
F. M. Al-Kharafi, F. H. Al-Hajjar and A. Katrib	869	Inhibition of heterocyclic compounds of corrosion of copper
N. R. Smart, P. M. Scott and R. P. M. Procter	877	Repassivation kinetics and stress corrosion of mild steel in phosphate solutions
J. M. Saniger, F. Alba, S. J. Garrido and E. Avendaño	903	The kinetics of aluminum-7075 corrosion by uranium hexafluoride
J. C. Walton	915	Mathematical modeling of mass transport and chemical reaction in crevice and pitting corrosion
Y. Meas and J. Fujioka	929	The determination of the corrosion rate in cathodically projected systems—I. Theory
O. P. Modi, M. N. Mungole and K. P. Singh	941	Potentiodynamic studies of modified 9Cr–1Mo ferritic steel in sulphuric acid and seawater
Technical Note		
J. Vosta and N. Hackerman	949	The dependence of capacitance on time in an acid inhibition corrosion process
Short Communications		
X. G. Zhang and U. Stimming	951	Scanning tunneling microscopy of copper corrosion in aqueous perchloric acid
J. R. Galvele	955	Surface mobility–stress corrosion cracking mechanism of steels for steam turbine rotors
Book Review		
T. N. Rhys-Jones	959	Metallic and Ceramic Coatings—Production, High Temperature Properties and Applications. By M. G. Hocking, V. Vasantasree and P. S. Sidky
	961	Corrosion Diary

NUMBER 10

M. POURBAIX	963	Thermodynamics and corrosion
S. FELIU, J. C. GALVÁN and M. MORCILLO	989	The charge transfer reaction in Nyquist diagrams of painted steel
R. SCHUBERT and S. M. D'EGIDIO	999	The surface composition of copper with indoor exposures ranging from 3 to 49 years
J. A. BARDWELL	1009	The use of ^{18}O/SIMS and electrochemical techniques to study the formation of the passive film on Fe–6Cr alloy
G. SUBRAMANIAM, K. BALASUBRAMANIAN and P. SRIDHAR	1019	1,1′-Alkylene bis-pyridinium compounds as pickling inhibitors
A. M. ZAYED and A. A. SAGUES	1025	Corrosion at surface damage on an epoxy-coated reinforcing steel
R. E. LOBNIG and H. J. GRABKE	1045	Mechanisms of simultaneous sulfidation and oxidation of Fe–Cr and Fe–Cr–Ni-alloys and of the failure of protective chromia scales
	1073	Corrosion Diary

NUMBER 11

J. H. GERRETSEN and J. H. W. DE WIT	1075	An investigation of the passivation and breakdown of passivity of chromium by cyclic voltammetry and ellipsometry
J. FLIS, H. ORANOWSKA and Z. SZKLARSKA-SMIALOWSKA	1085	An ellipsometric study of surface films grown on iron and iron–carbon alloys in 0.05 M KOH
R. GOPALIENGAR and R. A. ORIANI	1101	The kinetics of nickel passivation in sulfuric acid, and the effects of plastic deformation on the kinetics of various electrochemical reactions on nickel
O. SERI and M. IMAIZUMI	1121	The dissolution of $FeAl_3$ intermetallic compound and deposition on aluminum in $AlCl_3$ solution
D. PEREIRA, J. D. SCANTLEBURY, M. G. S. FERREIRA and M. E. ALMEIDA	1135	The application of electrochemical measurements to the study and behaviour of zinc-rich coatings
Short Communication		
G. S. DUFFO, M. GIORDANO and J. R. GALVELE	1149	Surface mobility in the dealloying of Ag–Cd alloys in halide solutions
Book Reviews		
J. C. SCULLY	1153	High Power Lasers. Eds A. NIKU-LARI and B. L. MORDIKE
J. C. SCULLY	1154	DECHEMA Corrosion Handbook, Volume 3. Ed. D. BEHRENS
	1157	Corrosion Diary

NUMBER 12

J. A. TREVERTON, A. BOSLAND and J. M. BROWN	1159	Surface analytical studies of no-rinse versions of chromium phosphate pretreatment for lacquers
R. J. K. WOOD, S. P. HUTTON and D. J. SCHIFFRIN	1177	Mass transfer effects of non-cavitating seawater on the corrosion of Cu and 70Cu–30Ni
G. S. FRANKEL	1203	The growth of 2-D pits in thin film aluminum
B. S. CHAUDHARI and T. P. RADHAKRISHNAN	1219	Boundary conditions during the electropermeation of hydrogen through pure iron
A. SPINELLI and R. S. GONÇALVES	1235	Electrochemical studies of the adsorption of propargyl alcohol on low carbon steel electrodes in H_2SO_4 solutions
	1247	Announcements
	1251	Corrosion Diary